



ESTABLISHED 1848

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COLMAN'S RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

Established 1848.

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COLMAN'S RURAL WORLD

Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 630 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

While the RURAL WORLD is published at one dollar a year, it has temporarily allowed old subscribers to send actually NEW OR TRIAL subscribers with their own subscriptions at fifty cents a year, in order to largely increase the circulation and influence of the paper. This price is less than the cost of the white paper, presswork, folding, wrapping, mailing and greypaying the postage, saying nothing of any other of the large expenses of maintaining offices, paying salaries and conducting such a paper in a large city. Renewals, unless accompanied by one or more NEW subscribers must be at one dollar a year. All names are dropped as soon as subscriptions expire. The month named on the address tag, pasted on each issue, shows the month subscriptions expire, and renewals should be made two or three weeks before, so that names shall not drop out of list. It is gratifying to the proprietor to be able to state, in his half century's experience in conducting this paper, it has never enjoyed the patronage and prosperity it now does. Its circulation is increasing in a wonderful degree, and its advertising patrons, many of whom have used its columns for a quarter or a third of a century, are more than pleased with results. Let all our friends unite and press forward in extending its sphere of influence. It will do for others what it is doing for you, so get others to join the great RURAL WORLD army and receive the same benefit.

OLEOMARGARINE AT THE STATE UNIVERSITY.

Our Marion County, Mo., correspondent, "Cherry Dell," states in his letter that appears on this page, that oleomargarine is served on the State University Boarding Club tables. Does he know that this is the case? We should be very sorry to be assured that it is, and trust that he has been misinformed. It would certainly be a matter of deep regret to the people of the state who are opposed to fraud and law breaking to know that the University of the State of Missouri gave sanction and countenance to the use as an article of food of so disreputable a substance as oleomargarine. Admitting for the moment that oleomargarine is a wholesome article of food, the fact remains that it maintains its place in the market simply by deception and violation of law, and that ought to be enough to condemn its use. But we deny that oleomargarine is a worthy substitute for butter with respect to wholesomeness, and can hardly think that University authorities who should be informed on this point would fall to object to its use.

CANDOR IN ADVERTISING.

The RURAL WORLD published a communication recently which an advertiser construed as reflecting unfavorably on his goods, and in writing us suggested that in the interest of advertisers, such letters should not be published. In the communication referred to the writer gave no names by which any one could tell what advertiser was referred to, thus, as we thought, taking particular care not to work injury through our columns, excepting that the article tended to make readers more cautious about accepting fully all the statements made by advertisers. The fact should not be overlooked by advertisers that a publication of the character of the RURAL WORLD is of value as an advertising medium because it is of value to its readers and is held in high esteem by them. Every one knows that every manufacturer of and dealer in an article of sale is very apt to regard his article the best of its class, and does not hesitate to say so in his advertisement—it is to be expected that he will—but if he is reasonable he will recognize

the fact that there is ground for differences of opinion, that all cannot see alike, and that instances of perfection attained are extremely rare. Is it the duty of a publisher to ignore this last fact and to publish only that of a commendatory character regarding the articles advertised in his paper? To do so is to ignore the interests of his readers, and to do this means a diminution of his power to serve the best interests of legitimate advertisers.

We do not look upon the advertising columns of a paper like the RURAL WORLD as merely a revenue-yielding feature. With a proper regard for the character of the advertisements accepted, this department can be an instructive to the general readers as any in the paper, and to the extent that readers can be made to appreciate this to that extent is the paper adding to its value as an advertising medium. But this calls for honesty and candor—"the truth, the whole truth and nothing but the truth" must be told if the highest good to reader, advertiser and publisher is to be attained.

AGRICULTURE AT THE WORLD'S FAIR.

The Louisiana Purchase, the territory acquired by President Jefferson for the United States from France in 1803, comprises an area of 1,067,735 square miles, divided into 14 states and territories. Within these states and territories there are 165,373,338 acres of land in cultivation, which are valued at \$3,195,461,286. The annual value of the farm products of the Louisiana Purchase is \$1,576,194,431. The annual value of the manufactures of the Louisiana Purchase is \$1,096,333,431, and of the mineral products, \$259,990,128. The combined value of the manufactures and mineral products is \$1,356,323,559. The annual value of the products of the farms in the Louisiana Purchase exceeds the combined value of the manufactures and mines by the enormous amount of \$209,869,872.

We present these otherwise incomprehensible figures in this comparative way to emphasize the claim that agriculture has for recognition in the World's Fair that is to be held in St. Louis in 1904. Scarcely will any one deny the claim in the face of the bare figures presented, for do not they prove the truth of the assertion so often made that agriculture is the basis of the nation's prosperity and the people's welfare?

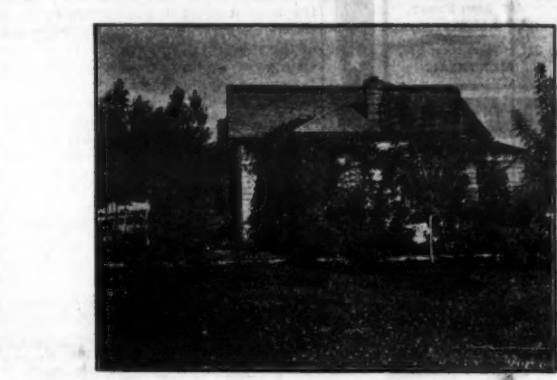
But conceding the fact, will it follow that agriculture will be accorded its just dues in the management of and arrangements for the Fair? Possibly not, for farmers as a class lack that aggressive sense which compels recognition. It is assumed that the men with the "pull," the politicians, will be the ones who will be given preference with respect to appointments, and that as a consequence of this, concentrated capital invested in manufacturing and in the great market centers will have more consideration in the arrangements than will the vastly greater amount invested in agriculture, but which is widely scattered.

But we trust that the governors of the various states of the Louisiana Purchase and of the Union will take a statesmanlike view of the matter and see to it that agriculture is properly represented on the several state commissions, to the end that the most important industry of the world shall be adequately set forth in the St. Louis World's Fair in 1904.

FOR THE OTHER FELLOW.

Every farmer that reads, be his reading ever so desultory, has had the improved methods of farming forced on his notice for years. City dailies will publish agricultural facts which may seem to them to be novelties. You know the novelty man with his novel advertisement, the money making dependence of such papers, hence what may seem novel in farming operations, receives attention. Then, too, the farmers' institute with the coterie of men versed in agricultural scientific facts has come to the very doors of the farm home and has announced that knowledge of the things which the farmer is apt to consider very commonplace must be acquired, that the soil must be studied, that plants and plant food are solid business factors, that animals and food rations must be the known members of an equation, if the unknown member will be profit on sale day, that manure waste too oft represents what ought to be farm profits, that fungous disease must be fought in line with the origin of the disease, while insect enemies must be routed in their breeding camps and according to manner of feeding. Yes, and much of what farmers call practical farming, but which has been evolved along lines of scientific investigation, is all being thrust upon the farmer's notice.

Many acquiesce in the reasonableness of the methods advanced, but think them not adapted to their special conditions—all right for the other fellow, but not practical in his special case. This is the rock upon which much of the practical information developed by our Experiment Stations is wrecked. The very fact that while the underlying principles are as fixed as the laws of the Medes and Persians, yet the application of them is as flexible as the conditions of the numberless farms of our broad land are varied; and this should prove to the farmer that they not only suit the other fellow's conditions, but his own as well. At times farmers protest that the directions given are not suited



From Bare Surroundings to this in Sixteen Months.

to their immediate needs. This is just as it should be, and what will make the difference between the thinking and the unthinking farmer. The principles must be studied and then made to suit one's special case.

An instance of the value of knowing agricultural principles and being able to adapt them to one's situation is found in the practice of Mr. Dresser of New York, the owner of one of the largest poultry farms in the country. He has studied the facts in connection with the moulting of chickens, the conditions necessary to compel the shedding of feathers, the foods that will induce growth of new plumage, and has thus learned how to compel his hens to moult in August, and to have them all feathered and ready for egg production for his high priced city customers when they return from fashionable summer resorts. Mr. Dresser has simply taken cold scientific facts and made them suit his needs and thus make him dollars. His hens are made to loaf when eggs are low in price, and to work when the market price is paying. What the other fellow can do, so can you.

FROM SOUTHERN IDAHO.

Editor RURAL WORLD: Thinking that some of your readers would like to hear from this part of the western country, and to know what their western brothers are doing, I make bold to write this letter.

The days of the "wild and woolly west" have passed, and now the work of developing and bringing forth the wealth of the fertile soil, the mines, the grazing land, and the timber, for the benefit of ourselves individually, and the public at large, is a work that should interest every man that is public spirited, and who has any desire to be a maker of history for the coming generation. Idaho is an empire in itself. It has the riches, and can produce everything that a people would need to complete their happiness and comfort—mountains of minerals, from iron to gold; thousands of acres of the finest timber, miles upon miles of the richest grazing lands; valley after valley of the most fertile soil that will produce any fruit, vegetable or grain that will grow in a temperate climate, watered by never-falling mountain streams, which furnish all necessary water for irrigation purposes, and power enough to run the mills of the entire country.

The care with which the sage brush land of Idaho can be transformed into a bower of trees, flowers and shrubbery, and a home beautified, may be imagined from the accompanying picture.

On the first day of April, 1899, this house stood on bare ground, surrounded by nothing in the way of vines, grass or shrubbery, except a few straggling sage brush. The owner had the ground plowed, leveled and seeded to blue grass and clover, and began the planting of trees, etc. This picture was taken in July, 1900—just 16 months from the time the first work was done. Can anyone beat it?

The productive possibilities of this soil, brought out by irrigation and intelligent cultivation, can hardly be realized by people acquainted only with the soil of the eastern country, nor can they comprehend the small area of farm land necessary in this country to meet the needs of a family for comfort and happiness.

Anything can be grown here that will grow in a temperate climate. All products yield abundantly. Plenty of water for irrigation, fertile soil, good climate, where a man can work out of doors all winter without any discomfort. All that a farmer could ask for is here. A good demand for the fruits of his labors. What more could he ask?

Grain of all kind yields abundantly. Wheat from 25 to 40 bushels per acre, barley and rye from 30 to 60 bushels, oats from 30 to 50 bushels, and corn from 40 to 75 bushels. Hay will produce from five to eight tons per acre; alfalfa and clover are cut three times during the season. Timothy can be cut twice. Hay sells readily from \$5 to \$8 per ton in the stack. Blue grass, red top, etc., do remarkably well and make fine pasture.

Mr. C. S. Fosselman of Weiser, Idaho, was awarded a silver medal at the Paris Exposition (1900) on his exhibit of apples, pears and peaches, with the following remarks by the Horticultural expert, Paris Commission:

"Your collection, as well as all of the Idaho fruit, is attracting a great deal of attention. There is none better grown anywhere. Apples, particularly the best winter varieties, are a source of great profit to the grower. The Idaho apple grower can com-

pete with the world, for here the crop is more certain. The soil contains the elements necessary to produce size and quality. It does not take so long to grow an orchard. The trees are prolific bearers, and the fruit is very fine in appearance as well as in quality.

Last year ripe prunes shipped from Southern Idaho to London, sold for 12 cents per pound.

Few localities in the world can grow perfect prunes. This section is one of the few. Our prunes grow larger, are of better quality and flavor, contain more sugar, and yield more to the tree than elsewhere. Even Oregon, Washington or California cannot equal the product of this section.

Pears are worthy of much consideration, and are very profitable to the Southern Idaho grower. They bear at a young age, produce abundantly and there is always a good demand for this fruit. The winter Nellis is a pear much sought after by the Eastern dealer. It keeps until March of the following year.

The Bartlett green pear is very large, fine in flavor and appearance. Other varieties, both fall and winter, are equally profitable to the Idaho grower.

Peaches, apricots, nectarines, quinces, cherries, etc., need but passing notice, for in quality, flavor and abundance they rank closely with the apple, prune and pear. Small fruits such as strawberries, blackberries, dewberries, etc., yield abundantly.

Poultry and bee keeping are engaged in with very satisfactory results. The climate being dry, there is no tendency towards disease to carry off the fowls. There is always a good market for chickens and fresh eggs.

Bees have a long season in which to work and the winters are not cold enough to make housing necessary. The extensive fields of alfalfa, acres of fruit and fruit blossoms, together with the abundance of wild flowers furnish the best of bee pasturage and no wet weather in spring or summer. This is an ideal locality for poultry and bee keeping.

The United States Government should reclaim all the sage brush land by irrigation, and thus converting it into a "Land of Promise."

CRAWFORD E. WHITE.

A YOUNG FARMER TALKS.

Editor RURAL WORLD: On account of my inexperience in farming, I have been somewhat diffident about writing for publication, but having been requested so kindly to do so, will add my little mite to the helpful columns of the RURAL WORLD. I take great pleasure in reading the letters contributed by your correspondents.

I cannot say that I have made any signal success yet as a farmer, but it is certainly my ambition and expectation not to form part of the rear guard of the army of agriculturists in the new order of events in this twentieth century. As a boy I learned to lead a plow and use a hoe, and by the way, not everybody knows how to cut weeds with a hoe.

I have had only five years actual experience in farming. As this is a gravelly, sandy, rocky soil, of course, we use chills plows and what I know in regard to running a plow does not apply to a steel plow. I found that if I did not use a "hitch" of proper length, the point would wear off on the under side till it would have no "suck" and would not work. I cannot endure a piece of slovenly "break-hitch," and while I do not cover the ground that some do, yet one will travel awhile before finding better work than mine. I found that a long hitch makes a plow run better in rocks. I never used a gauge wheel until a year ago, but would not like to be without one now. It makes a plow run so much steadier and takes off half the work. Of course, in "new" ground I take it off, as it is in the way, and then there is danger of breaking the castings.

It has been my constant aim to increase the depth of soil in all the fields to ten inches, which is about as deep as my plow will well run. Of course, it is harder on my team to plow eight and ten inches deep than four or five, as is commonly done in this country; but I believe it pays, and I am not very fond of doing any work that I don't think will pay. My idea is that a soil stirred ten inches deep will contain twice as much available plant food as one plowed only five inches deep, and will be capable of an increase of 50 per cent in yield over the shallow soil.

While cow peas have been in cultivation in the United States for 150 years, yet only in the past few years have they at-

tained any prominence here as a crop, and many can be found who have not yet raised them. People are becoming informed pretty well now as to the advantages of cow peas and they are beginning to be extensively planted. One great advantage they possess is the ability to make a crop on land too thin for anything else, and very little cultivated land here will secure a satisfactory stand of red clover, so that cow peas are a great boon to the farmers here.

I have not cared to try to raise corn to sell and have learned to confine my corn "patches" to the best ground on the place. I will have a total of ten or eleven acres this year, but I expect that I can make enough for my use. Beside raising enough wheat for bread, I will devote the remaining acreage to forage crops and annual pasture, as I have no permanent pasture. Too many try to raise corn year after year on the same ground, and the consequence is it gets so it will raise nothing.

Cow peas are a troublesome crop at times, and an old resident told how to get rid of it. He said after clearing land to put it in corn for three years, then grow nothing but corn for 40 years, and a crab grass would not bother. He said he had tried it and knew. My practice has been to grow corn only about twice in succession and then change to some other crop.

I shall experiment this year with oats as a hay crop, cutting them just when they commence to head well. If the result pleases me I shall put up quite a little "oat hay" till I get enough timothy and red clover to supply my needs. I am writing too much of my affairs, so will quit. THOS. E. MOORE.

Washington, Co., Ark.

COW PEAS.

Editor RURAL WORLD: I have been raising and feeding stock peas for several years, and the more I become acquainted with them the better I like them. They are, indeed, a very profitable crop, if one wants to put them on the market. The peas bring a good price if held until mowing time, and there is usually a good demand for the hay. A great deal of it is baled after it is threshed. The majority of the farmers say they would rather have it to feed after it has been threshed, claiming that stock eat it more readily; and it is much easier handled about the barn and mangers. Stock eat it with a great relish, and milk cows, when fed on it, give a good return in the milk flow and yield of butter.

One year I had a pea patch and corn field in the same field. I cut the peas for hay, and after I gathered the corn I turned the cows in this combination field. I was very much surprised to see how they browsed on this pea stubble, in fact, they gave the stalk field a wide berth until almost all the pea stubble had vanished. The cow peas are not only a good paying and feeding crop, but is a good renovator, and puts new life into the soil. We think it is next to clover in this respect. In fact it is superior to clover on some soils, viz., on land that is too poor to grow clover peas will take hold and have a mechanical effect on the soil, so other crops may follow.

Please don't misconstrue my thoughts. Doubtless some will think that I'm "struck" on the cow peas. I am as far as it goes, but when it comes down to the test, red clover is my favorite leguminous plant. Red clover and stock peas will rotate crops, as long as I farm.

Farmer friends, let me insist upon your giving more attention to these crops. And if you don't know the various values they possess procure a Year Book from the Department of Agriculture and give it close perusal.

PEA THRESHERS.—There are several machines in this locality that do very satisfactory work. I have noticed quite a good many inquiries in the RURAL WORLD about these machines, and I am more than willing to give any information on this subject that I can.

The latest and best machine out for threshing peas is manufactured somewhere in the East. A. F. MAXEY.

Jefferson Co., Ill.

Our readers will be very glad to hear further from Mr. Maxey, as to when he plants cow peas as a main crop for seed and hay, when he would plant for pasture, and when and how as a catch crop, how he plants, how much seed to the acre, what varieties, how he cultivates and how he harvests. All this information need not be put in one article; a series of short ones will be better.—Editor.

A MARION CO. (MO.) LETTER.

Editor RURAL WORLD: It has been chilly, cloudy and snowy for nearly three weeks. It is very hard on humanity and the strongest type. I imagine it is also very hard on the myriads of destructive insect pests. I say let the good work continue. I have learned how to take things as they come. This world is the testing ground; all good seeds that will grow and bear fruit will get planted in the garden prepared for them. I know a very intelligent man who made it a rule to curse the Almighty when it rained during harvest or at any time that it rained when he wanted to do anything. He is now in the asylum.

My strawberries are very badly damaged by last year's drought, although I had them well mulched. Peaches, apples,

raspberries and blackberries, also pears, are promising an immense crop.

G. W. Watters held an institute at Spalding recently. It was a very interesting meeting. He will hold one in this vicinity this week, when we are to organize for a two-day session next fall. We intend to make it a grand farmers' picnic, where premiums will be awarded on grain, vegetables, stock, etc. They will be scored by experts. Cream and butter will be an important part in the display. State lecturers will make it interesting. Some suggested we get some students from Columbia to do the scoring; but I showed them a bill of fare of the University Boarding Club, on which appeared oleomargarine for breakfast, oleomargarine for dinner, oleomargarine for supper.

We decided that the State University students do not know what butter is, so we may have to send for Buff Jersey's manager to do the butter act. I intended to go to the Agricultural College at Columbia, but if they do not know enough to eat butter at the University of our grand old state, I do not want to go there. I will go to the Iowa Agricultural School. Say, good people, do you know that the Legislature appropriated \$25,000 for the club house? And now they serve oleomargarine on the table.

I attended a stock sale in Putnam yesterday. Stock sold well. The creamery is doing extra well, and is meriting its patronage. Illinois people are buying farms here in reach of the creamery, and there will soon be need for a building twice the present size. Let the good work go on.

A telephone company was organized here last week which completes connections here with the entire state and part of Illinois.

My barley and speltz are up, some oats sown, some corn ground plowed, but none are really in a hurry, as they now need more water in the subsoil for the crops in August. CHERRY DELL.

Humboldt, Mo.

HOW TIME IS SPENT.

A Farmer's Opinion on the Subject.

Editor RURAL WORLD: Your editorial in the issue of March 27 on "Time," is timely and to the point. There is no class of laborers to whom time or a day's work is of more value than the farmer, and no class of laborers squander so much time recklessly as they. The farmer never knows to a certainty the value, in dollars and cents, of a day's work. Not so with the day laborer, the clerk, mechanic or artisan. Their day's work is measured. They know that if they work they earn so much money; if they do not work they lose so much money. The farmer when plowing, planting, cultivating or harvesting, never knows what will be the gain of a day's work well and promptly done, or the loss of a day's work undone. The point I want to make is this: A day or a half day, or even an hour lost in planting or sowing a crop, may delay the time of planting or sowing (caused by rains or unforeseen circumstances), until such a time that complete failure is the result.

Thirty years ago I got a few lessons along this line that I have not forgotten. I was a member of a grange and being the chief mogul for a time, it was very necessary (?) that I attend every meeting. So about twice a month, work or no work, half a day or a day, I must be there. I was never able to make up for a day lost. Each succeeding day had its own work to be done. I have since found that by sticking strictly to business I have been enabled to keep up with my work and get it done in season. Yet I failed to profit by my former lessons and last year lost by neglect. We had been working hard all season and had things pretty well rounded up, when my son asked for three or four days' leave to visit the fair and friends at our old home. The weather was fine and as we expected the thresher in a few days, we decided to thresh the millet from the shocks; and I let him go. It rained for two weeks. We could have stacked the millet in the two days of fair weather that preceded the rains. We lost at least \$5.

When one is crowded with work, what to do first and what to let wait, is often a sore puzzle, requiring thought and prompt action. Then the farmer has such a great variety of work to choose from, and at which he can spend his time. When the regular work is all done or the ground too wet to work, he can spend \$10 or \$15 for a shotgun and ammunition and go to work through his neighbors' fields, cutting holes in the hedge through which he and the stock may pass, shooting everything that flies; or he may spend the same amount of money for a sow and pig, and the time in fixing a pen and nice dry shed for the comfort; or he can take his fishing tackle and go to the creek and spend the day gazing into the muddy depths of a frog pond, dreaming of whales and tadpoles; or he can take his knife and spend the day in his orchard pruning the limbs and hunting for borers. Then he can choose between spending the day at the grocery or town spinning yarns and whitening goods boxes or in helping his wife fix up a flower bed and in cleaning and beautifying the premises; or he can spend

\$5 or \$10 a year for tobacco and smoke it up or chew it and practice spitting at the stove door or a crack in the floor; or use the same amount for tools to work with on rainy days, and for periodicals for himself and family to read and improve their minds and keep up with the world. Then again, he may spend a day repairing an old fence with old material and make it last six months or a year, or with new material make one that will be good for ten years; or he may put in a day hoeing the crab grass from a few rods of a neglected truck patch, or take the team and mowing machine and cut the weeds on 10 or 12 acres of pasture, thus doubling the amount of grass and adding dollars to the value of the farm.

These things could be multiplied indefinitely, but I forbear. Every farmer with his eyes open can see them. A farmer can always find something to do if he will do it, and the more he does the more he finds to be done. C. A. BIRD.

Vernon Co., Mo.

THE SUNFLOWER.

Editor RURAL WORLD: Noticing in a recent issue of the RURAL WORLD some interest manifested in the sunflower, I thought to give a bit of my own experience in its culture and use. From my first season of farming this has been a regular and favorite crop with me, proving most satisfactory both as a grower and a feeder. Planted and tended in like manner as corn, except that only a single stalk of sunflower is left in the hill, a good yield is inevitable, so, at least it proves on our sandy loam. It certainly is one of the best drought-resisting plants in cultivation. The mammoth Russian is the favorite variety.

No poultry raiser, perhaps, need be told of the benefits of the seeds in that department, especially to moulting and layers. The eagerness of the birds to get at them and the gloss imparted to the feathers when sunflower seeds form a regular portion of the diet, are unmistakable indications in their favor. Furthermore, I am satisfied that a moderate daily feed of them through the cold weather promotes winter laying, provided other essentials of care are not lacking. Horses and cattle profit as much by their use as do fowls, and are quite as fond of them. Sleek, shiny coats are here in evidence and can be attributed to no other article of food.

When the plants are well advanced towards maturity we begin to feed the leaves, beginning with the lower ones. Once or twice a day the horses' mangers are supplied with them alone or mixed with a hay. In the latter case animals, which always at the best time, will make way with the leaves before beginning on the hay. The common farmer, who has no scientific knowledge of feeding stuffs, can judge of an article only by its effects, and he employs the same logic in the care of his stock that determined his own choice of food, namely, whatever is particularly relished is needed by the system.

This gradual stripping off of the leaves never seems to retard the seed development. As soon as fully ripe, along in September, the seeds should be gathered before the birds find them, or they begin to shell. My method of harvesting is to cut off the heads, leaving a portion of the stem attached for a handle. The disks are laid, seeds up, on an elevated surface out of doors, where they are left till thoroughly dry. No matter if they are wind-blown, the water soon evaporates; it is the plant cells that are so slow to part with their moisture.

When the seeds are ready to shell, they are drummed out, a head at a time, against the inside of a barrel, thus storing them at the same time. The barrels are covered and placed in the granary, where the contents keep perfectly and are always ready for use.

The bulky stuff, rich in potash, are the next consideration. They have taken much out of the soil and should be returned. While some burn them and restore only the ashes, it is a waste to do so, for few soils are rich enough in fiber or carbon, otherwise known as humus. I prefer to gather them, run them through the cutting box and add them to the compost heap, or scatter over the ground that produced them, to be turned under. I do not practice burning any growth that will improve the fertility or the mechanical condition of the soil if incorporated with it. M. A. HOYT.

Michigan.

ARKANSAS JOTTINGS.—It is common to speak of the weather like this: "I never saw the like," "this beats all," etc.

I can truthfully say that I never experienced such weather as March and April so far have vouchsafed us.

I planted potatoes the first week in March, and they are just as they were when planted. Peach blossoms are fading and the young fruit seems to be all right. Cattle are picking their living now. I ought to say much cows that have been fed are, as other cattle have been doing so all winter. During a residence of 25 years here, this winter just past, was the only one that did not afford snow or ice that would bear up a boy. Easter came in clear and cold. Oats three or four inches high. Very little corn planted. Spring 15 days late. Eleven carloads of meat hogs shipped from here to date, and more coming. WM. MANNING.

Woodruff Co., Ark.

The Dairy.

THE GROUT oleomargarine bill, after having passed the House by a large majority, died in the Senate by reason of not coming to a vote. There was a clear majority of the Senate in its favor, but every time it came up it was pushed aside by other business and the term of Congress expired by constitutional limitation without final action on the bill. It is confidently expected that it will be enacted next winter, but it will have to go through the regular process from the beginning.

THE DILUTION SEPARATORS.

THE RURAL WORLD has received recently a number of letters from readers asking our opinion regarding the so-called tin-can or dilution separators. Our opinion of them will be quite clearly expressed by stating that the RURAL WORLD declines to insert advertisements of these contrivances in its columns. Advertising contracts from three different manufacturers of dilution separators have recently been declined by this paper, because we do not regard these so-called separators as possessing sufficient merit to make it worth while for our readers to buy them.

The method by which they are operated—diluting the fresh, warm milk with cold water—has been carefully investigated and found to be inefficient as a means of getting a complete separation of cream. To have a bad effect on the cream and butter produced, and to make the skim milk practically worthless for calf feeding, because of the added water. Equally as good, and in some respects better, results can be obtained by any other method of deep settling in cold water. In our own dairy work we had our tinners make us a set of cans eight inches in diameter and 20 inches deep, these to be filled with milk fresh from the cow and as quickly as possible set in cold water. No dilution separator made will produce better results than will this method with respect to separation of cream, and the skim milk will not be rendered worthless by being diluted one-half with water. For ordinary home use it is better and cheaper than a dilution separator. For a business, a centrifugal separator, such as we are advertising, should be obtained.

BUTTER SLOW IN COMING.

Floyd R. Howell, of Shelby Co., Mo., a little boy 11 years old, wrote us recently saying that he had been churning to day and asked us to tell him what was the cause of the butter being so long in coming. It took two to seven hours of churning to bring the butter. The milk, he says, is from two Jersey cows, fed on bran and corn fodder twice a day, and salted once a week.

We know from experience how to sympathize with Floyd, for as a boy we have gone through the experience of churning hour after hour until arms seemed about ready to fall off and back almost broken in two. The most common cause of slow churning is in having the cream too cold. No one should attempt to make butter without being provided with a dairy thermometer with which to test the temperature of the cream. One can be bought for 25 cents.

The colder the cream the longer it will take to churn. In creameries where the churn is worked by a steam engine the practice is to have the cream comparatively cold—say 54 degrees F.—because a better quality of butter is made than when the cream is warmer. In the creamery it is expected that the churn will run about an hour. For hand churning at home this is too long; so one must have a thermometer—say 58 degrees in the warm and 60 in cold weather. These temperatures must, however, be modified to suit other conditions. In a cold room the cream must be warmer than otherwise. Cream from different cows and different breeds varies with respect to the churning temperature. Jersey cream, as a rule, requires a comparatively high temperature. The character of the feed will modify the proper churning temperature. It is said that excessive feeding of cotton seed in the South makes a very high churning temperature necessary—70 to 72 degrees being not uncommon. Sweet cream must be churned at a lower temperature than that well ripened, and a rich, heavy cream lower than a thin cream, other things being equal. Then the construction of the churn, speed and amount of cream are all factors in determining the churning temperature. Another important factor is the length of time the cow has been in milk. Cream from a farrow cow is harder to churn than that from a fresh one, and must have a higher temperature.

Thus it is seen how important it is to know the temperature of the cream when it is put into the churn, and one must know many things about the cream to be able to intelligently modify the temperature to suit the conditions. It is too much for an eleven-year-old boy to master easily, but his father or mother will probably help him in the matter.

We will be glad to have Floyd write us again and tell us more about his cows, their feed and water, how the milk is handled and skimmed, kind of churn used and other facts that may occur to him.

Hood's Sarsaparilla

Has won success far beyond the effect of advertising only.

The true secret of its wonderful popularity is explained entirely and only by its unsurpassable Merit.

Based upon a prescription which cured people considerably incurable, which accomplished wonders astonishing to the medical profession.

Hood's Sarsaparilla

Includes the concentrated values of the best-known vegetable remedies united by such an original and peculiar combination, proportion and process as to secure curative power peculiar to itself. Its cures of mild and extreme cases of scrofula, eczema, psoriasis, and every kind and degree of humors, as well as catarrhs and rheumatism—prove Hood's Sarsaparilla

the best blood purifier ever produced. Its cures of dyspepsia, biliousness, nervousness, loss of appetite and that tired feeling make it the greatest stomach tonic, nerve-builder and strength-restorer the world has ever known.

Hood's Sarsaparilla

is a thoroughly good medicine. Begin to take it TODAY. Get HOOD'S.

FARM CREAM SEPARATORS.

Rural World Readers Are Interested in the Subject of Using Cream Separators on the Farm.

On invitation of Secretary F. D. Coburn, of the Kansas State Board of Agriculture, an address was delivered at the board's recent annual meeting by Mr. Geo. Morgan, a long-time, observant dairy and creamery man, on that subject. Mr. Morgan is entirely convinced of the desirability of the milk-producer having his separating done at home rather than at the factory or station, and some of his observations are as follows:

The value of the farm separator to the private dairyman has already passed the experimental stage. The evidence of our experiment stations and the testimony of all who have made a careful, intelligent comparison between the gravity system and the modern cream separator is practically a unit in favor of the latter for the private dairyman. The question as to its advantages in localities where creameries are established is one upon which there is much difference of opinion. The most serious problem confronting creameries at this time is that of operating expenses. This applies alike both to creamery or proprietary management. It makes but little difference. All are vitally interested in the expense account. If the eastern creamery enjoys a patronage of from 10,000 to 30,000 pounds of milk per day, while many of our creameries are running along at from 3,000 to 5,000 pounds, then we have lost much of the advantages we possess on account of our cheaper dairy forces. In the increasing cost of operating, evidently, as long as present conditions exist, some system of contraction is inevitable.

The farm separator, we think, will assist greatly in solving this problem. It means a minimum of labor with a maximum of profit. The product is carried in condensed form from the patron to the creamery. In our state, dairymen are inclined to be of the opinion that the conditions at the farm are peculiar and peculiar. The farmer has a way of putting the creamery on half rations of milk. When times and crops are good, it is no uncommon thing to find him at milking time quietly sitting on the fence with a complacent smile upon his countenance, but as he watches the calf do the milking, when he reverses come, the cow and the creamery are counted among his best friends and assets. When large investments are made in skimming stations and these spells strike the patrons, it often proves very disastrous to the management, as they feel compelled to keep running, though the patronage has gone below any chance of profit. We feel safe in saying that fully one-third of the skimming stations in this state from October 1st to May do not pay running expenses.

It is in these localities where the farm separator will prove of the greatest benefit. If the patronage is light then the expense is correspondingly light. We place the average cost of a skimming station at \$1,000 and the average cost of operating at \$600 per annum. This, of course, will include interest, taxes, insurance, breakage, wear and tear, labor and fuel. Many stations now running in Kansas do not average over 1,500 pounds of milk per day other day during the fall and winter. Forty cows at 20 pounds of milk per day per cow will produce 1,600 pounds of milk in two days. Here is an investment, then, of \$1,000 with \$50 per month expense to handle the milk of 40 cows.

At points where the patronage is liberal any radical change would not be advisable. It will to a great extent work its own way. But at these weaker, non-paying stations much good can be accomplished by the use of the farm separator. Especially in territory where the distance is too great to haul milk. True, to carry out this plan the farmer must make an investment for which he is amply compensated in the increased value of the skim milk and the convenience of having it on the farm morning and evening to be fed while warm, sweet and fresh and in the best possible condition to be fed to the young animal. The milk patron often suffers a severe loss on account of his Sunday's milk during the heated term. He also loses again by feeding new milk to the calf for six or eight weeks on account of the danger incurred in feeding the creamery milk. Where milk is fed from the farm separator by careful management and the use of Kaffir corn-meal, the calf can be put upon the skimmed milk at 15 days old. It has been our experience that the patrons with from 10 to 15 cows save enough in one year to pay for a \$100 machine.

ACID TESTS FOR CREAM.

A Paper by E. W. Curtis, Council Grove, Kan., Read at the 11th Annual Convention of the Missouri Dairy Association.

The object of the acidity test for showing the amount of acid in cream or milk is comparatively new, although the process of testing for acid has been known among chemists many years. Until the last year or two very little attention has been paid to the amount of acid in cream as an index of the quality of said cream. Our dairy schools and best buttermakers, however, have of late given the matter much attention. The many of our best equipped dairies and creameries have them in use. The annual report of the Dairy Commissioner of Iowa, published recently, states that at the present time 108 of about 350 creameries in that state are using the acidity test.

It may be that some of our hearers have not studied the causes that have led to the adoption of the acid test for cream and for such I will discuss them briefly, asking meanwhile the indulgence of those who are using the test and have given the matter some thought.

Any person who invents some system or instrument whereby the old "rule of thumb" or guesswork is superseded is entitled to credit as a public benefactor. Thus, in dairy lines the inventor of the thermometer as a measure of temperature was a great man and a benefactor. The inventor of scales of many centuries ago and to-day unknown has provided a just arbiter between buyer and seller of all commodities and from which there is no appeal (unless it be to another pair of scales). Then, in later days, in 1839, Dr. S. H. Babcock of the University of Wisconsin gave to the world free a standard rule of measure for buyer and seller of milk and cream, and dairymen everywhere—the world to-day love to honor him, the inventor of the Babcock tester, as a scientific and as a true and generous man.

The acidity test today follows these great inventions and, in my opinion, is as worthy of adoption. But why adopt it? What is it? And what for? My unsupported opinion is worth little and the questions crowd us for answer.

DO YOU NEED A CREAM SEPARATOR THIS YEAR?

IF SO, let us send you a new catalogue, and also have the nearest local agent personally place the facts before you. Try a machine and decide in that way if you wish.

A De Laval separator is as much superior to other separators as the best of such other separators are to setting methods. The poorer makes of them are mere fakes.

THE DE LAVAL SEPARATOR CO.

RANDOLPH & Canal Sts., CHICAGO. General Offices: 1102 ARCH STREET, PHILADELPHIA. 74 CORTLANDT STREET, NEW YORK. 227 CONGRESS ST., MONTREAL.

For a moment let us notice the souring of milk and ripening of cream. These common phenomena are caused by the little bacteria of which we read so much. If it were not for these minute plants, 25,000 of which placed side by side would only reach an inch, cream and milk would remain sweet forever. In our state, dairymen are inclined to be of the opinion that the conditions at the farm are peculiar and peculiar. The farmer has a way of putting the creamery on half rations of milk. When times and crops are good, it is no uncommon thing to find him at milking time quietly sitting on the fence with a complacent smile upon his countenance, but as he watches the calf do the milking, when he reverses come, the cow and the creamery are counted among his best friends and assets. When large investments are made in skimming stations and these spells strike the patrons, it often proves very disastrous to the management, as they feel compelled to keep running, though the patronage has gone below any chance of profit. We feel safe in saying that fully one-third of the skimming stations in this state from October 1st to May do not pay running expenses.

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We will suppose another case: say, at 4 o'clock in the afternoon our buttermaker tests his acidity to be only .4 of 1 per cent. He could hold his temperature at 70 degrees until he gains more acidity, to be followed by chilling when the proper amount of acid is secured. Suppose still another case: our buttermaker has added too much starter and by the use of the acidity test at 4 o'clock he discovers that he has .68 per cent of lactic acid. I would advise either chilling very cold, adding a little salt to the cream, or churning that evening.

Any buttermaker will find that he has made a big jump toward uniformity of product if he will use an acidity tester and ripen to a certain point, say .58 of 1 per cent. Month by month and year after year his butter will be practically the same.

A question naturally arises here: If we have more flavor by ripening to .58 of 1 per cent, why not continue the ripening process to .7, .8 or even .9 of 1 per cent? If we get a fine flavored butter at .58 per cent, why would not our flavor be higher, rosier, better at the higher percentages of acidity named? If a little is good more is surely better. But it doesn't work that way. Our buttermakers have found that if they ripen too high or much over .7 of 1 per cent, they are liable to have poor, rank, off-flavored butter.

Microbiologists, in studying the matter, have found that the growth of nearly all lactic acid producing bacteria is checked by the acid they themselves produce, after they have gained about .7 of 1 per cent. When they reach this point, they gradually stop growing and multiplying and other species of bacteria which have been dormant so far and which are not affected by the lactic acid, begin once to grow and will soon take the field, like crab grass in a weak stand of alfalfa. The by-products of the second set of bacteria are usually quite harmful, and will produce flavors one would better expect to find around a tannery than a cream vat.

The point to which it is safe to ripen will vary slightly with the starter used, condition of milk, etc., but in general terms I would not advise ripening to over .7 of 1 per cent acidity—.68 per cent is better, because at very little over this the growth of lactic acid producing bacteria is checked and undesirable species of bacteria will get in their work.

A word of advice in passing. I have

been in a great many creameries and examined their butter, and I think as a rule more butter is over-ripened than under-ripened. When we shall be able to use the right kind of a starter and, by the use of the acidity tester, then will our buttermakers have made a long stride forward in their chosen calling.

A consideration of the subject would not be complete should I not state that I believe a reaction is setting in among butter buyers against high flavored, aromatic butters. They are finding out that while, as a rule, this kind of butter will please the popular palate, yet, after all, it is not as good a keeping butter under commercial conditions as butter that is made from cream of somewhat lower acidity. And, again, our buttermakers in trying to produce this butter are apt to ripen too close to the danger line, with the result that sometimes their product will be way off.

BUFF JERSEY reports one day's milking and churning as follows: Morning's milk from 33 cows and heifers, 300 pounds; night's milk, 216 pounds; total, 516 pounds. Fed to calves, 22 pounds, leaving 504 pounds of milk for butter making, and from which 34½ pounds of butter was made, or more than 5.5 pounds of butter to the 100 pounds of milk, and more than an average of one pound of butter per cow.

THE PALMYRA, MO., CREAMERY.—The time had about arrived when Mr. Rohrer will begin shipping cream to St. Louis. He has a very advantageous contract with a big St. Louis dairy which will take all the good cream he can furnish from about April 1st to the last of September, and for this cream he will be paid far better prices than he would get if he turned it into butter. This will mean better prices for his patrons, as Mr. Rohrer always divides profits with his patrons. But now comes the rub. He will get two kinds of cream. Some of his patrons will bring him cream that he can ship to St. Louis. Others will bring him cream that will not do to ship and he will have to churn. It will not be worth as much as the cream he ships and of course he cannot pay as much for it. It would not be fair to the patrons who take good care of their milk and get it to the creamery in a condition to ship. Mr. Rohrer paid the others who do not take care of their milk the same price for their goods. The La Grange creamery has two prices, one for cream fit to ship and the other for cream only fit to churn.—Marion Co. Herald.

THE MAN AND THE WHEEL.

The wheel in its various applications to the industrial arts, from the crude cart-wheel of the ancients to the whirling shaft of the modern dynamo, has been one of the most important factors in the evolution of the race. Take away all the wheels of the 20th century world and we would have very little civilization left. While we believe that much depends upon the man, the man behind the wheel makes the difference between a good and a bad driver. The man who is hampered by having to use inadequate tools as from the man who employs up-to-date methods and has an up-to-date equipment. Take the matter of farm wagons as an illustration. For years we used for farm work wagons with the old narrow wheels. Every time we put a load on we lifted about twice as high as there was any need of, every time we drove across a field we cut into the ground



about twice as deep as was necessary; every time we started the horses we pulled about twice as hard as was required. Then some one hit on the idea of making a low down handy wagon and the world was changed. The labor of farm hauling was reduced about one-half. The handy wagon became popular at once for all farm hauling. Every one who has used a low down wagon is ready to say with the man in our illustration: "No more high wheels for me." We believe this is especially true of those who use the famous Electric Handy Wagon or the Electric Steel Wheels made by the Electric Wheel Co. of Quincy, Ill., who have always been recognized as the leaders in this line of goods, and by all the best of all descriptions for wagons and implements of all kinds, and will sell either a wagon complete or a set of wheels for an old running gear. If you have not a low down handy wagon we know that it will pay you to investigate. Send for the Electric Catalogue. It's free.

FEEDING SKIM MILK TO CALVES.

The Nebraska experiment station has just issued Bulletin No. 63, which treats of the subject of raising calves. In the experiment comparisons are made between raising calves on separator milk and allowing them to run with their dams. Residents of Nebraska wishing the bulletin may obtain it free of cost by writing to the agricultural experiment station, Lincoln, Neb.

Following is a digest of the bulletin: This experiment is an attempt to show the profit of raising beef calves on separator milk as compared with that derived from allowing them to suck their dams.

To start this experiment western grade Hereford and Shorthorn cows were selected, the aim being to secure individuals uniform in respect to date of calving, type and milking tendency.

The cows were divided into two lots, lot 1 being taken from their calves, while lot 2 were allowed to run with them. The animals in both lots were weighed once a week and all rations carefully measured and recorded.

The calves fed by hand made good gains during the first five months, but not equal to the lot running with the cows.

When the two lots were put on feed after the test there was not much difference in the condition or form, but the sucking calves were smoother and better fed.

After weaning the hand-fed calves had the advantage, being accustomed to rations of dry forage and grain. At the end of the year there was practically no difference either in appearance or weight between the two lots.

To find the difference in the cost of raising the two lots all food was charged to both cows and calves at market price.

In this test it was found that a skim milk calf could be raised to six months old at a cost of about \$9 for all food consumed.

Labor was not taken into consideration owing to the great difficulty in finding a fair basis.

The cows used in the experiment were more inclined toward beef than milk production, but still they averaged 3,992 pounds of milk and 158 pounds of butter fat during the milking period. This amount of butter fat would make 184 pounds of butter, which would be the amount charged to each sucking calf.

As to the quality of the two lots, at the age of 14 months it was quite impossible to detect any difference between the sucking and skim milk calves.

WHITE SCOURS IN CALVES.

Editor RURAL WORLD: The article in a late issue of the RURAL WORLD on calf cholera, gives an exact description of the disease known in Kansas and S. W. Missouri as white scours. The veterinarian is right in saying it is a fatal disease, but wrong in saying there is no remedy after the disease has developed. The preventive method he advises is good, but where is the farmer who can or will carry it out?

The following remedy, if used before the calf is dying, will effect a complete cure:

One oz. magnesia, one oz. bismuth, 2 oz. kino. Mix and give a heaping teaspoonful in a little milk and repeat in two or three hours. The third dose usually gives relief, but in extreme cases use it at irregular intervals for several days. This recipe can be filled at any drug store for about 30 cents. Used in time, and even if it causes the loss of sleep, it guarantees a cure. I have had some calves to be troubled with bloody flux after getting over the scours. In these cases I have found the best remedy to be a teaspoonful of castor oil, half a teaspoonful of laudanum and half teaspoonful turpentine. CHAS. W. KINLEY, Miami Co., Kan.

A CREAMERY FOR SALISBURY.

By the Salisbury, Mo., Press-Spectator we learn that the people of that community are considering the feasibility of establishing a creamery. Mr. Miller, the creamery man at Macon, Mo., was in Salisbury recently by appointment to advise with the farmers regarding the matter. In the course of his remarks Mr. Miller read the following from a recent issue of a South Dakota paper:

"To-day the patrons of the Champeney creamery drew their checks for their June butter for which a pound was paid, says the Mitchell, S. D., Republican. The price was very good considering the eastern market. During that month Mr. Redford stated that over 400,000 pounds of milk were delivered at the creamery and the skimming station. Some of the farmers who are patronizing the creamery drew some large checks for their June butter. Charles Borenson, who lives south of town, standing at the head of the list with a check for \$10, and several others went over the \$100 mark. The total amount of money paid out to farmers was about \$2,600. The men who are patronizing the creamery are the ones who best understand its benefits and would not under any consideration see it abandoned from the business of this county. It brings in the cash check every month of the year and goes a long way toward the monthly expenses and with the hired metal wheels and the creamery is one of the permanent institutions of Davidson county and we hope

FOR every purpose where White Lead is required, that made by the "old Dutch process" of slow corrosion is the best, because of its superior density, its uniformity and durability.

The brands named in margin are genuine "old Dutch process" White Lead, the best it is possible to manufacture, and which have long been recognized as standards of paint value.

For any color or shade required, use NATIONAL LEAD COMPANY'S Pure White Lead Tinting Colors. Pamphlet sent free upon application.

National Lead Co., 100 William Street, New York.



64 T Lever Harrow \$7. Made of channel steel. Very hard and strong. 1/2 in. steel teeth fastened with Hotchkiss nut. The best Harrow on Earth. Weight 170 lb. light but very strong. Set with 5 bars 60 T. 2, 3 or 4 sections, combined 2 and 4 horse power. Send for Big Free Catalogue to HAPGOOD PLOW CO., Box 50, Alton, Ill.

The only plow factory in the United States selling direct to the farmer.

TESTS AND TESTIMONIALS

In the past they have been very fast to advocate tests, but they have been beaten so many times by

The Improved United States Separator

they are now trying to cast slurs on all tests and discredit all testimonials. When they were competing with inferior separators and they could sometimes best, then

TESTS AND TESTIMONIALS

were in great favor with them and they were advising everybody to "put it right in the contract," but now that they are competing with a better separator they wish the public to believe that

Tests are Fake and Testimonials are Bought claiming they are manufactured out of whole cloth and that it is impossible to locate the places or the persons. In this connection we call attention to the following statement and ask if they have any trouble in locating them:

Three U. S. Separators to one of all other makes

FOURTEEN years ago this month we started our creamery on the co-operative plan recommended by your agent, fitting the building with machinery from your company. All these years until a year ago last month we put in separators. Our patrons are using more than three to one of the U. S. Separators over all other makes and we are satisfied with the U. S. Separator to do the best for the rural districts and believe it to be the best on the market.

We are still working the cream gathering plan and believe it to be the best for the rural districts, where unavoidably some of the patrons are a long distance from the creamery. We are satisfied with it because we believe it to be the best and the cheapest. No farmer can afford to hitch up and carry his own milk, even if he live within a half mile of the creamery, if he can get it done, as we have this year, at the average cost to each patron per day of 54 cents.

H. R. HOYT, President LaGrange Creamery.

As the main works of the DeLaval Separator Co. are located at Fougères, France, they are painfully aware that the LaGrange Creamery is right under their shadow and around them. They are tried hard to keep the U. S. out, having as many as eight men canvassing there in their endeavors to do so, but Mr. Hoyt's letter shows how vain were their efforts.

The Improved United States Separator

has merits sufficient to win without such dishonorable methods. It is acknowledged to be

The Standard Separator of the World

For further information and illustrated circulars, write

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

to see it patronized even more liberally than it now is.

The "Press-Spectator" says the outlook for a creamery at Salisbury is encouraging. We will simply add, the people of Salisbury can't encourage a more worthy enterprise.

A MILK CONDENSARY.—We are expecting to secure at our county seat, Effingham, the location of a branch plant of the Holyoak Milk Condensing Company of Highland, Illinois.

The plant must be assured 10,000 lbs. of milk per day to begin with and will use all that can be supplied.

A. D. McCALLEN, Effingham Co., Ill.

M. E. Moore, Cameron, Mo., writes: Have just made some sales of heifers bred to my Shadybrook Gerben De Kol bull. One of them was to Mrs. K. M. Currier of Canaan, N. H., who bought Krontje Carlotta Mechthilde, one of my show heifers which as a calf won first and sweepstakes prize at St. Louis. Mrs. Currier writes: "Carlotta arrived in fine condition. I am very much pleased with her and find her all I expected from your description." Mr. Robert Ralston, Conway, Ia., came here and selected four heifers for foundation stock of a herd. They are all well bred, combining the largest butter records. Mr. Ralston had previously purchased of me a Bontje bull that will head the herd. Capt. E. W. Stevens of Sedalia has purchased of me two heifers, Carlotta, Lady Netherland and Josephine Mechthilde, which go to displace two Jerseys. To Hal G. Stevens, Decatur, Ill., I have sold a daughter of

Mayrke 3d's Gerben, the great show cow that won the butter test at St. Louis in 1898, where she made in public 3 pounds 4 ounces of butter in 24 hours. To the Missouri State Lunatic Asylum No. 1 I have sold my yearling bull, Artis Sir Parthenia, that won the first prize at Atlanta, Ga., and at Lincoln, Neb.; also first at head of young heifers. He is the second bull I have sold to this asylum. Have also sold to Asylums Nos. 2 and 3 their Holstein cattle.

MUNICIPAL MILK SHOPS.—The corporation of Liverpool, England, has opened depots for the sale of milk scientifically "humanized" for consumption by infants. These stores are situated in various parts of the city and are under the control of the chief medical officer. The instructions for the guidance of the customers are explicit and must be followed closely.

The price for a week's supply for an infant is about 2s; for a day 5s. This is the beginning of the dream of Bellamy when all necessities will be furnished by the government.

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsomely FREE! Stick Pin

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

Live Stock.

April 15—Boone Co. Shorthorn Breeders' Association, Columbia, Mo.
April 21, 22—N. H. Gentry and June K. King, Shorthorn cattle, Kansas City, Mo.
April 22 and 23—Two days combination sale, 100 high-class Shorthorns, from herds of June K. King, N. H. Gentry, Gentry Bros. and W. P. Harned, Shorthorn.
March 25—W. E. Rigg, Mt. Sterling, Ill.
April 12—C. C. Bigler & Son, Hartwick, Iowa.
April 15—Boone County Shorthorn Breeders' Association, at Columbia, Mo.
May 1—M. E. Jones & Co., and B. E. Fraher & Son, Shorthorn, Ill.
HEREFORDS.
May 11 and 22—C. A. Jamison, Peoria, Ill.; H. H. Godman, Wabash, Ind.; and others, at Chicago, Ill.
ABERDEEN ANGUS.
March 14—H. M. Gifford, Peoria, Ill.
March 20—Gardner, Judy, Mattinson and Seely, Kansas City, Mo.
April 20—Haley Bros., Harris, Mo., and others, at Kansas City, Mo.

BEGINNING A HERD OF PURE BREDS.

One reason that there are not more herds of pure bred and high grade cattle that farmers and stock raisers take note of the well established herds of their state or section of the country and compare them with the scrub stock in their own yards, and conclude that they haven't the money to put into such a herd, which means also the expense of fine barns, herd keeper, etc., in addition to the large sum needed to purchase the herd. The result is that in the majority of cases the scrub herd is continued, and the business for the price received for the stock raised even when care is used in growing and feeding it, falls far below the market reports of prices obtained for good high-grade or pure breds.

The great difficulty is in the view point taken—that of looking at the finished herds of reputation, rather than at the beginnings of these herds. Many of them with a pure bred sire, the owners having followed the axiomatic principle that the bull is half the herd; and later a pure bred cow or two; and the herd as now seen has been the result of years of thoughtful study and careful breeding and large expenditures of brains, time and money.

What one man has done another may do, if the same animus actuates him; and young farmers have the same, if not better, opportunities for growing fine herds of cattle than was offered a half or even a quarter of a century ago. Many of the sires and dams forming the nuclei of these herds, now so famed, had to be secured at distant points, if they were not imported, and large expense for transportation was incurred. Now they may be secured but a comparatively few miles from one's home.

If the grades and pure breds are more profitable and larger returns are obtained from them, and the cost of keeping a pure bred is no greater than that of a mongrel, why not dispose of some of the scrub cattle and as a business proposition, invest the proceeds in a good pure bred bull? Then, having obtained this "half" of the herd, give the same painstaking and intelligent care in breeding that is exercised by the breeders of large herds, and it is possible that fine returns to be obtained from a herd by the large breeder, who has correspondingly large expense. The writer has had just such experience, and while knowing these abstract facts regarding breeding, was yet amazed to note the improvement in a very few years in a herd that was composed of selected common cows and bred to a pure bred bull. If a better grade of cattle is desired, don't conclude that to obtain such results a herd is necessary in the beginning. The farmer or stock raiser who develops a herd from a "half herd" of pure breds is much more apt to give the care and attention that mark the necessary breeder.

ARKANSAS GEOGRAPHY AND TICKS.

Editor RURAL WORLD: Brother Trotter thinks that my knowledge of the geography of our state is very limited. I will have to "acknowledge the corn." I lived in Monroe County for three years; in 1899 I was a member of the Grand Jury, and one of the jury commissioners for that county; served two terms in the Legislature, and yet I did not know that a part of Monroe County was west of White River.

When I studied geography Roe was not on the map of the state, and as navigable streams ought to be boundary lines between counties, and as White River is navigable, I very naturally jumped to the conclusion that it was the western boundary of the county down there as it is farther north.

It is 34 miles from here by rail to where Mr. Trotter lives. There is no doubt but that his section is permanently infected with the Texas tick. This being so, Northern cattle, as he says, will die in a majority of instances, if introduced there. Our native cattle are just as susceptible to the disease as cattle from the Northern states. We had ample proof of this fact two years ago, when those Louisiana cattle that I wrote about were brought here. Those cattle wandered for miles, and wherever they went, our native cattle took the fever and died. There were 400 of the Southern cattle, their owner had 115 natives that he bought up in this county, and turned them on the range with the imported cattle. Of the natives 100 died. Mr. John Decher had 200 head and lost six. He then got up his cattle and swabbed them with black oil, thus killing the ticks, and lost no more. I was at his place while he was doing this.

The young man who brought those cattle down here from Missouri last fall knew what he was about. He came here last summer, put him up a house, crib, etc.

If there had been any ticks here, he would not have been foolish enough to bring cattle here. As I have previously stated, I never saw a Texas tick until two years ago, and I have not seen one since.

Woodruff Co., Ark. WM. MANNING.

Calf Scours

Diarrhoea, Cholera and indigestion are cured by Hood Farm Calf Scour Cure and Hood Farm Digestive Powder. Over 75 per cent. of cases treated have been cured. I have not lost a calf that was treated with Hood Farm Calf Scour Cure. D. R. Dorr, Cashier First National Bank, New Kensington, Pa., Sept. 20, 1900. \$1.00 and \$2.50. By express \$1.25 and \$2.75. Large is four times dollar size. On orders of \$10, we prepay express.

Hood Farm Milk Fever Cure may be safely given after cow is unconscious. \$2.50. By express prepaid, \$2.75. Extra good Jersey bull calves and Berkshire sows generally for sale. Correspondence solicited. Mention this paper.

C. I. HEDD & CO., Lowell, Mass.

BREED INTELLIGENTLY.

At the recent meeting of the Improved Stock Breeders' Association, at Lincoln, Neb., Prof. Burnett of the experiment station, discussed the matter of maintaining the size and quality of breeding stock. Heavy breeds of cattle and horses come from regions of abundance of food. By forcing maturity in animals they become more blocky and low, and eventually the tendency to lay on flesh becomes perpetual. Some feeders work for bulk, while others devote more time to quality and type. If cattle feeders continue to buy their stock from the range, they should plan to secure them before they are ruined by inadequate feed and treatment.

Young cattle can be fattened more easily than those which are older and have not had an abundant supply of feed. Secure the best type of animals. Let the sire and dam be about equal in size and quality. Hereford cattle have very superior qualities, but their best characteristics will be ruined in attempting to develop their milk qualities. The man who thinks Hereford milk unexcelled must have indeed limited experience. If a cow two years old does not show good quality in her particular line, send her to the slaughter house. At this age she is virtually all she ever will be. Do not try to produce a calf when a heifer is two years old. Allow her another six months at least.

A cow of good average maturity weighs 1,300 to 1,400 pounds, and the bull from 1,500 to 2,000 pounds. Show yard cattle are not desirable upon the farm. They are too heavy. The ideal market cattle are those of good quality which, under ordinary care mature at about the age of two years and weigh from 1,400 to 1,500 pounds. In the discussion which followed this paper it was brought out that show yard cattle were the greatest detriment to the cattlemen of the state. In the endeavor to improve an animal to the highest point of excellence in some one line, the utility of the animal is sacrificed. Conditions around jealousy, and the really valuable and serviceable animals are neglected. A new standard of judgment should be adopted by fair managers.

GUARDING CATTLE IMPORTATION.

Washington, April 7.—As a result of negotiations between Secretary of Agriculture Wilson and the Canadian Minister of Agriculture, an agreement has been reached between the two administrations by which Canada is to have a first-class veterinarian stationed in England to test for tuberculosis all British cattle shipped to this country via Canada. The Canadian administration wanted cattle to be admitted from Canada without test, at the border by American experts. The department at Washington would not agree to this. Secretary Wilson said, however, that if Canada would send to England an agent who should have sufficient expert knowledge of the subject the United States would admit cattle upon his certificate that the cattle had been tested and found free of tuberculosis. This was agreed to by the Canadian Minister.

It is officially explained that about 10 per cent of live stock in the United States and about 40 per cent in Great Britain have tuberculosis. The cattle on the continent of Europe are so diseased that this government will not permit the admission of any animals from there.

THE TRANSATLANTIC CATTLE TRADE.

The United States and Canada now have a virtual monopoly of the world's export cattle trade to the United Kingdom. All other important cattle exporting countries which were formerly shippers to this market have been precluded by the British laws for the prevention of foot-and-mouth disease from landing their cattle on British soil. Argentina, after having carried on a successful and increasing trade with Great Britain since 1890, was last April declared to be infected with the disease and her flourishing trade has ceased. Australia, though non-infected, has not yet succeeded in establishing a cattle trade to the United Kingdom; her several tentative experiments in transporting live stock on a commercial scale over the vast distances and through the diversities of climate that separate her from the mother country have, as business ventures, ended in failure. Against various countries of continental Europe declarations of the existence of foot-and-mouth disease have been made from time to time during the last quarter century. Since 1892 exports of cattle to the United Kingdom from that entire continent have almost ceased.

Even the thriving export trade of the non-infected United States and Canada has been carried on under other restrictions that would at one time have been regarded as almost prohibitive. In the year 1879 the existence of pleuro-pneumonia in the United States caused the British government to prohibit the landing of cattle from this country except for slaughter within ten days at the port of landing, and although this republic was officially declared to be free from the disease in 1892, the restrictions were never removed. Canadian cattle were placed under the same restraints and for the same cause in 1892. A little later these restrictions were made permanent and of universal application, and since January 1, 1897, no cattle from any country whatever are allowed admission commercially into the United Kingdom, if allowed at all, except for slaughter within ten days at the port of landing.

During the past ten years the importation of live cattle into the United Kingdom, notwithstanding the rigorous restrictions under which the trade has been carried on, has greatly surpassed previous records, and has averaged over 600,000 head annually. Imports from Argentina first became of sufficient importance to be stated separately in the British port receipts in 1894, and since that date the receipts of foreign cattle in the United Kingdom from the three almost exclusive sources of supply have been as follows:

IMPORTS OF CATTLE INTO THE UNITED KINGDOM.

Year ended	From Argentina	U. S. Canada	gentine
Dec. 31, 1894	251,552	38,322	9,263
1895	276,533	36,993	39,494
1896	416,229	126,496	78,262
1897	328,778	196,400	39,263
1898	321,229	94,660	38,265
1899	350,209	94,660	38,265
1896	356,119	101,691	65,639

STOCK NOTES.

J. P. VISSERING'S farm at Melville, Ill., has long been the center of attraction for lovers of fine bred cattle. This reputation has been established by breeding registered Aberdeen Angus cattle of individual merit and most fashionable strains. A draft of twenty bulls is yet

offered from this farm. See advertisement elsewhere.

THE BOONE COUNTY, MO. sale of Shorthorns will be attended by those who are looking for useful cattle at reasonable prices.

At Columbia, Mo., on April 15, a well bred lot of cattle will be sold, and this will be an excellent chance to get a bull or cow as a means of improving one's herd, or as the basis of a new herd. Send to Mr. John Burruss, Columbia, Mo., for a catalog and don't forget the date, April 15.

EVANS-SNIDER-BUEL CO. sold on April 4 for R. H. Brown, Calvert, Tex., one car 1,250-lb. fed Texas steers at \$5.20, which is the highest price obtained on this market during the season; also, seven cars 1,149-lb. steers at \$4.90. These cattle were good quality and well fattened Texas steers, and speak well for Mr. Brown as a feeder. They also sold in the native division for the Illinois Central Salt Co., St. John, Ill., one load black Polled-Angus steers, which were of good quality, but were not finished; they averaged 1,321 lbs. and brought \$5.40.

THE COLIN CAMERON public sale of 500 ranch raised Herefords at Kansas City, on April 2-4, was fairly well attended. The cattle were in fair shape and a good lot for the chance they have had. The average on the entire lot was \$5.80. Five head sold for \$200 or better. Following are the names of the principal buyers: Joe Matteson, Moline, O. T.; C. E. Whitteley, Bedford, Iowa; Geo. Anstey, Bedford, Iowa; John Hudson, Canyon City, Tex.; W. A. Anstey, Marion, Iowa; Just P. Deane, Belton, Mo.; B. I. Gould, Great Bend, Kas.; Mr. Cameron will make his next sale at Kansas City, Mo., on the first Wednesday and Thursday in May, 1902.

THE SHORTHORN COMBINATION SALE at Kansas City, Mo., April 22-23, will include some of the best specimens of the breed to go under the auctioneer's hammer this season. They are of the very best of Scotch, Bates and Booth, with individuals of each strain that are show animals in the best show yards of America. The herds that are represented in this offering are proof enough of the high quality. Attendees at the same will see some of the very cream of the breed and anyone wanting a high-class Shorthorn will make a mistake if he does not attend this sale. Send to June K. King, Marshall, Mo., for a catalog.

ANGORA GOAT SALE.—Sixteen hundred head of Angora goats, most of them from New Mexico, were sold in Kansas City, on Wednesday of last week. Fifty head of recorded does were bought by Forman Bros., of Versailles, at \$12 each. They also bought 100 head of grades at \$5.50. They have established quite a goat ranch south of Versailles, and there is every reason to believe that their investment will be a paying one. The raising of Angora goats has become quite a profitable and important industry in many of the Western states.—Bunceton, Mo., Eagle.

FATAL FOOT AND MOUTH DISEASE.

Washington, April 7.—The officials of the Agricultural Department are closely watching all reports from abroad regarding the extent of the foot and mouth disease, a fatal malady that is raging among the live stock in almost every country throughout Europe. For the last three years the outbreak has been general on the European continent, and the reports constantly arriving from various foreign points do not indicate any diminution in its extent. This government, as it has done since the epidemic reached such alarming dimensions, is refusing to admit any cattle, sheep or swine, except from the British Isles. This is done, not only to protect the vast live stock interests of this country, but also to protect our \$30,000,000 or \$40,000,000 annual export trade in cattle.

BLACKLEG VACCINE.

The cheapest and handiest form of single treatment vaccine is that furnished by the Pasteur Vaccine Company, and consists of a cord or string impregnated with the vaccine. It is always ready for use, and requires no outfit or set of instruments to apply it. There is no time or money lost in mixing, filtering, grading the virus and injecting. Each dose is separate and therefore there is no waste. Pasteur Blackleg Vaccine Cord is therefore by far the most popular form of vaccine, and is evidenced by the large and constantly increasing demand for it. The cord method dates from 1896, and is rapidly displacing the old single treatment vaccine in the powder form with the trouble of mixing and injecting. However, the Pasteur "Double" Vaccine still holds its own as the best for pure-bred or valuable stock, which should receive the double treatment in order to secure a higher degree of protection against Blackleg. Stock raisers are indebted to the Pasteur Vaccine Co. for the introduction of blackleg vaccine into this country, and the popularizing of the same. The vaccine is sold in bottles, and the company has branch offices in New York, Omaha, Kansas City, Fort Worth and San Francisco. The vaccine is prepared by the very men who discovered blackleg vaccine in 1894, and who have been making it ever since. There is therefore no question of an experiment with Pasteur Vaccine, either on the part of the manufacturers or the users.

Veterinary.

Answers to questions in this department are given by Dr. T. E. White, former State Veterinarian for Missouri, Sedalia, Mo. Write questions on one side of paper only, and separate from other business. Those wishing a written reply privately must accompany their requests with a fee of one dollar, the professional opinion being one of private advantage.

A LAMB LAMB—I have a lamb which has lost the use of its forelegs. It seems to be right other ways except it cannot walk. It eats well. Please give a remedy.

JOHN EDGINGTON.

Examine the holes in the legs, they may be closed. Rub the legs well three times a week with the following: Witch Hazel one part; water that has been boiled, three parts. Internally give three ounces of epsom salts dissolved in a half pint of water. Drench in the mouth, but never in the nose. You may have to repeat this drench in three or four days.

WART ON HORSE.—I have a young horse that has a large wart on the inside of foreleg, up close to body. It seems to be just hanging to skin. I would like to know how to remove it. J. E. COOK.

Washington Co., Mo. Clip the hair closely all around the wart and grease the spot well with castor

COMBINATION SALE OF 126 ABERDEEN-ANGUS CATTLE AT THE FINE STOCK SALE PAVILION, STOCK YARDS, KANSAS CITY, MO., MONDAY AND TUESDAY, April 29 & 30, 1901

HALEY BROS., Harris, Mo., in order to close a partnership disperse their entire herd of 60 head, including the noted stock bull, Nabob of Lakeside, a novice son of the celebrated Gay Blackbird. The show cow Abbess of Estill, 4th; Golden Flora, an International Exposition winner; Jennet's Favorite, a State Fair winner; Lake-side Ardette, a sister to Gay Lad, and 16 sons and daughters of the famous Blackbird Hero. This consignment affords an opportunity to secure a state fair show herd and grandly bred Coquettes, Erics, Prides, Drumlin Lucys, Easter Tullach Duchesses and other good sorts. W. S. Karnaghan, Clarinda, Ia., contributes brothers and sisters in blood to the great prize winner Golden Flora and her dam, and the best bred and most individually excellent lot of Drumlin Lucys offered since the Estill dispersion.

A. P. Groom, Winchester, Ill., sells herd-headers from the illustrious Jilt, Blackbird, Pride, Erica, Queen Mother and Heather Bloom strains. They are "corkers."

S. Melvin, Greenfield, Ill., consigns the get of McHenry Blackbird 8th and McHenry Pride 5th.

W. J. Turpin, Carrollton, Mo., sells chiefly of his noted Nosegays. John Harvey, Bloomfield, Ia., sells the get of his stock bull Gay Lad, a brother to Gay Lad.

Tyson Co., Redwood Falls, Minn., consigns Pride sons of Golden Abbott and Pride of Denison, and J. M. Duff, Chestnut, Ill., sells Erics, Prides, Westworn Roses and daughters of the splendid stock bulls Zaire 7th and Leoner.

There is not a cull in the entire offering and the average individual excellence of the animals is believed to be higher than that of any Angus auction held this season. Their pedigrees are worth perusing. Send for catalogue to

W. C. McGAVER, Mrg.

MT. PULASKI, ILL.

Cols. F. M. WOODS,
J. W. SPARKS,
CAREY M. JONES, } Auctioneers.

"Pasteur Vaccine" SAVES CATTLE FROM BLACKLEG

Nearly 2,000,000 successfully treated in U. S. and Canada during the last 5 years. Cheap, safe and easy to use. Pamphlet with full particulars, official endorsements and testimonials sent FREE on application.

Pasteur Vaccine Co., Chicago.
Branch Office, 691 Whitney Building, Kansas City, Mo.

ZENOLEUM KILLS Lice, Ticks, Wrens, Fleas, etc.

Internally it drives out worms. Cures all cuts, wounds, sores, etc. It is the best remedy for all skin diseases. Write for full particulars.

Dr. J. W. Spinks, 101 N. 1st St., St. Louis, Mo.

HEREFORD CATTLE!

30 bulls and 30 heifers for sale, all registered, choice bred. Call on or address:

N. E. MOSHER & SON, Salisbury, Mo.

100 Head Shorthorns

In herd; young stock of both sexes for sale. The Crutcherbank bull Duke of Hardison 129667 at head of herd. M. H. K. Stephens, Bunceton, Mo.

ABERDEEN-ANGUS.
Bred back, low down, black and beefy. Bulls and cows for sale. Write for full particulars. J. P. VISSERING, box 14, Melville, Ill., near St. Louis.

SHORTHORN CATTLE.—Foundation stock

of the Aberdeen-Angus breed, and the best of the Scotch and English strains. Also young cattle and heifers for sale; write for particulars. J. P. VISSERING, box 14, Melville, Ill., near St. Louis.

Shorthorn Bulls.

A choice lot for sale. Good colors, good individuals and good pedigree. Write for prices. W. H. FULKERSON & SONS, Jerseyville, Illinois.

AVONDALE GALLOWAYS.

A few bulls of serviceable age now for sale. Can spare a few more. Write for full particulars. O. H. Swigart, 82 and 84 St. Clair, Chicago, Ill.

H. W. KERR,

BREEDER OF RED POLLED CATTLE.
Good young bulls for sale. Carlinville, Ill.

Camp Creek Herefords.

Young stock for sale. Come and see me. LOUIS WEHRMAN, Truxton, Lincoln Co., Mo.

oil. Then tie a strong wax end, as tight

as can be drawn, around it. The cord will cut just so far and no further, consequently every third or fourth day a new one will be needed. It is not necessary that the old ligature be removed when putting on a new one, just so that the new cord holds tight and does not slip. After a time the wart will drop off. It should then be greased daily with good castor oil.

RINGBONE.—What is "Morrill Solution?" I received a bottle of it from a veterinarian last year, but the bottle and label. It was a dark liquid and was first used to cauterize a wound in a horse. Is it a commercial or some special preparation?

I have a mare eight years old that had ringbone on her, which were fired last year. She is apparently well, but there are places upon her feet that run at times. What can I do for her?

Wright Co., Mo. HORSEMAN.

"Morrill Solution" is probably a special preparation. It is not mentioned in "The Druggist," published by the Merrill Drug Co., St. Louis, Mo.

A ringbone properly fired should not suppurate; its doing so indicates a necrotic (decaying) condition. As you do not give the full history, or the present condition of the parts, it is impossible to diagnose or prescribe a remedy. For one dollar I can furnish medicine that will kill—so to speak—a ringbone, bone spavin, splint, curb or side bone.

Gentry Bros., Sedalia, Mo.

CEDAR VALE STOCK FARM.

Grand Duke of Hazelhurst 156466, assisted by Waterloo Duke of Cedar Vale 158065, heads our herd of pure Bates and Bates topped, pure Scotch and Scotch topped cows of the most fashionable families.

Stock for sale at all times at reasonable prices.

Parties met at train. Farm two miles out.

TELEPHONE NO. 30.

SHORTHORN BULLS FOR SALE!

Baron Thormdale 128409; Dark Rose of April 46, 1288 at \$700, or will trade him for heifers. Also 8-year bulls by Baron Thormdale and out of dams of Masterday and Bessie, these strains have been in the herd since 1886, and are great milkers. Call on or address L. G. JONES, Towanda, Ill.

SHORTHORNS, BERKSHIRES and JACKS

Shorthorns Scotch or Scotch Top and Bates mostly. Berkshires best blood in America and English Stock of all ages and both sex for sale. Call on or address, M. H. GENTRY, SEDALIA, MO.

BLACKWATER SHORTHORNS! F. M. MARSHALL, Prop., BLACKWATER, Cooper County, Mo.

Headed by the Crutcherbank Bull, Orange Hero, by Goddy. Females are of pure Scotch and pure Bates, with individual merit the standard. Young stock of both sex for sale.

ST. LOUIS NATIONAL STOCK YARDS, THE LIVE STOCK MARKET OF ST. LOUIS.

Located at East St. Louis, directly opposite the city of St. Louis.

Shippers should see that their stock is billed directly to the

National Stock Yards.

C. H. KNOX, Vice-Pres. C. T. JONES, General Mgr. L. W. KRAKE, Asst. Gen'l Mgr.

SCOTT & MARCH, Breeders of

Registered Herefords.

Young Stock for sale. BELTON, MO.

110 High-Classed Shorthorns 110

—AT—

PUBLIC AUCTION

—AT—

KANSAS CITY, MISSOURI, ON APRIL 22-23,

Consisting of

50 BULLS AND 60 COWS AND HEIFERS,

All old enough to breed. Will either be bred or have calf at foot; of straight Scotch and Bates breeding of the very best, Scotch topped Bates, and some carry a strong infusion of Booth Blood. This offering as to quality is as good as the herds they represent contain, and the contributors are as follows:

June K. King, Marshall, Mo., 30 head,
Gentry Bros., Sedalia, Mo., 25 head,
John Morris, Chillicothe, Mo., 20 head,

W. P. Harned, Vermont, Mo., 15 head,
N. H. Gentry, Sedalia, Mo., 11 head,
Arthur Wallace, Bunceton, Mo., 6 head,

Fred Cooley, Columbus, Kas., 3 head,
While Mr. C. E. Leonard, Bell Air, Mo., Col. W. R. Nelson, Kansas City, Mo., and Col. W. A. Harris, Linwood, Kas., are offering one each.

Col. F. M. Woods,
Col. J. W. Sparks,
Col. R. L. Harriman,
Send to

JUNE K. KING, Marshall, Mo.,
For Catalogue.

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